Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1. (Currently Amended) A method for distributing candidate motion vectors, the method comprising:

dividing a picture frame ~~(110)~~ into a plurality of segments using a first component of a motion estimation module ~~(120)~~, each segment ~~(120)~~ comprising a plurality of pixel blocks ~~(130)~~;

measuring local motion complexity for each segment using a second component of a motion estimation module ~~(120)~~; and

assigning a number of candidate motion vectors to pixel blocks ~~(130)~~ within each segment ~~(120)~~ based on the measured local motion complexity using a third component of a motion estimation module.

2. (Currently Amended) The method of claim 1, wherein the step of measuring comprises: determining a sum-of-absolute differences between pixel blocks ~~(130)~~ of the picture frame ~~(110a)~~ and corresponding pixel blocks ~~(130)~~ of an adjacent frame ~~(110b)~~; and summing the measured sum-of-absolute differences associated with of pixel blocks ~~(130)~~ within each segment ~~(120)~~.

3. (Currently Amended) The method of claim 2, wherein the step of assigning comprises using a distribution function configured to assign the number of candidate vectors based on the measured local motion complexity of each segment ~~(120)~~.

4. (Original) The method of claim 3, wherein the distribution function is based on a maximum, minimum and average of the measured sum-of-absolute differences of the segments.

5. (Currently Amended) The method of claim 4, wherein the distribution function ~~fuction~~ is further based on predetermined values for a maximum, minimum and average number of candidate vectors per block.

6. (Currently Amended) The method of claim 1, further comprising performing motion estimation on the pixel blocks ~~(130)~~ using the number of candidate vectors assigned to each pixel block ~~(130)~~.

7. (Currently Amended) A system for distributing candidate vectors, the system comprising: ~~means for dividing~~ a first microprocessor that divides a picture frame ~~(110)~~ into a plurality of segments ~~(120)~~, each segment ~~(120)~~ comprising a plurality of pixel blocks ~~(130)~~; means for measuring local motion complexity for each segment ~~(120)~~; and ~~means assigning~~ a second microprocessor that assignes a number of candidate motion vectors to pixel blocks ~~(130)~~ within each segment ~~(120)~~ based on the measured local motion complexity.

8. (Currently Amended) The system of claim 7, wherein the means for measuring comprises: means for determining a sum-of-absolute differences between pixel blocks ~~(130)~~ of the picture frame ~~(110a)~~ and corresponding pixel blocks ~~(130)~~ of an adjacent frame ~~(110b)~~; and means for summing the measured sum-of-absolute differences associated with of pixel blocks ~~(130)~~ within each segment ~~(120)~~.

9. (Currently Amended) The system of claim 8, wherein the means for assigning uses a distribution function configured to assign the number of candidate vectors based on the measured local motion complexity of each segment ~~(12)~~.

10. (Original) The system of claim 9, wherein the distribution function is based on a maximum, minimum and average of the measured sum-of-absolute differences of the segments.

11. (Currently Amended) The system of claim 10, wherein the distribution function ~~fuction~~ is further based on predetermined values for a maximum, minimum and average number of candidate vectors per block.

12. (Currently Amended) The system of claim 7, further comprising means for performing motion estimation on the pixel blocks ~~(130)~~ using the number of candidate vectors assigned to each pixel block ~~(130)~~.